

Claims

1. A method for sealing a fibre-based material (1, 4) to a counter-surface to be bonded to the material by melting polymer present at the seal point, **characterised** in that the sealing is performed by directing a laser beam (8) through a fibre layer (4) of the material to a radiation-absorbing pigment disposed in the sealing area (9), with the absorptive heat melting the polymer (5, 11, 12, 14, 15) and generating the sealing.
2. A method as defined in claim 1, **characterised** in that a polymer-coated paper or board (1) is sealed to a counter-surface (5', 11', 12', 14) placed adjacent the coating (5, 11, 12).
3. A method as defined in claim 1 or 2, **characterised** in that a fibre-based material (1, 4) is sealed to a counter-surface containing polymer placed adjacent the material, such as a polymer film (14, 15).
4. A method as defined in any of the preceding claims, **characterised** in that the pigment is included in the fibre-based material (1) to be sealed.
5. A method as defined in any of claims 1-3, **characterised** in that the pigment is included in a member (15) forming the counter-surface, to which the fibre-based material (4) is to be sealed.
6. A method as defined in any of the preceding claims, **characterised** in that the pigment (13) is located on the surface of the fibre layer (4).
7. A method as defined in claim 6, **characterised** in that the pigment (13) is located under a polymer coating (12) of a paper or board.
8. A method as defined in any of claims 1-5, **characterised** in that the pigment is dispersed in a polymer layer (5, 15) of a coating or a film.
9. A method as defined in claim 8, **characterised** in that the pigment is included in the uppermost layer of a multi-layer polymer coating (5, 10) or film.

10. A method as defined in claim 8, **characterised** in that the pigment is included in an inner layer of a multi-layer polymer coating (5, 11) or film.

11. A method as defined in any of the preceding claims, **characterised** in that the
5 pigment contains carbon black.

12. A method as defined in any of the preceding claims, **characterised** in that a polymer-coated paper or board (1) is sealed to an adjacent polymer layer (5', 11', 12', 14').

10 13. A method as defined in claim 12, **characterised** in that the polymer-coated paper or board (1) is sealed against itself.

14. A method as defined in claim 13, **characterised** in that the method is used for
15 lateral sealing or closing of casing, container or bag packages made of polymer-coated paper or board (1).

15. A method as defined in any of the preceding claims, **characterised** in that the laser source (7) is a diode or Nd:YAG laser.